Author Index to Volume 19

Ács, G.
—; Péter, A.: Data on the Thermochemistry of *Azo*alkanes, 929
Agarwala, J. P.
—; Falconer, J. L.: Kinetics of Methylchlorosilane Formation on Zn-Promoted Cu_3Si, 519
Akhavan-Tafti, M. H. See Berndt, D. C., 513
Akimoto, H.
—; Takagi, K.; Sakamaki, F.: Photoenhancement of the Nitrous Acid Formation in the Surface Reaction of Nitrogen Dioxide and Water Vapor: Extra Radical Source in Smog Chamber Experiments, 539
Al-Hamdany, R. See Dabbagh, A. M., 49
Alfassi, Z. B. See Mosseri, S., 309
Comment: On the Mechanism of the Azide-Bromine Reaction in Aqueous Medium, 777
Arthur, N. L.
—; Christie, J. R.: Cross-Reaction and Cross-Combination Ratios, 261
Aschmann, S. M. See Atkinson, R., 299, 1097
Atkinson, R. See Wallington, T. J., 243
A Structure-Activity Relationship for the Estimation of Rate Constants for the Gas-Phase Reactions of OH Radicals with Organic Compounds, 799
—; Aschmann, S. M.; Goodman, M. A.: Kinetics of the Gas Phase Reactions of NO_3 Radicals with a Series of Alkynes, Haloalkenes, and α, β-Unsaturated Aldehydes, 299
—; Aschmann, S. M.: Kinetics of the Gas-Phase Reactions of Cl Atoms with Chloroethenes at 298 ± 2 K and Atmospheric Pressure, 1097
Ayoub, M. E. See Berndt, D. C., 513

Baldwin, P. J.
—; Canosa-mas, C. E.; Frey, H. M.; Walsh, R.: The Photochemistry of Methyl Cyclobutyl Ketone Part 2. Temperature Dependence and the Acetyl Radical Decomposition, 997
Barnes, I.
—; Becker, K. H.; Carlier, P.; Mouvier, G.: FTIR Study of the DMS/NO_2/I_2/N_2 Photolysis System: The Reaction of IO Radicals with DMS, 489
Basco, N.
—; Parmar, S. S.: The Reaction of Acetylperoxy Radicals with NO_2, 115
Basu, S. C.
—; Husain, D.: Measurement of Absolute Rate Data for the Reaction of Ground State Atomic Silicon. $Si(3^3P_J)$, with Halogenated Olefinic and Aromatic Compounds by Time-Resolved Atomic Resonance Absorption Spectroscopy, 1083
Batt, L.
—; Robinson, G. N.: Decomposition of the *t*-Butoxy Radical—I. Studies over the Temperature Range 402–443 K, 391
Becker, K. H. See Barnes, I., 489
Bennett, P. J.
—; Harris, S. J.; Kerr, J. A.: A Reinvestigation of the Rate Constants for the Reactions of Ozone with Cyclopentane and Cyclohexane under Atmospheric Conditions, 609
Benson, S. W. See Dobis, O., 691
—; Kondo, O.; Marshall, R. M.: Absolute Rate Constants for the Reaction of Br Atoms with *i*-C_4H_{10}, 829
Bérces, T. See Dóbé, S., 895
Berndt, D. C.
—; Ayoub, M. E.; Akhavan-Tafti, M. H.: Micellar Catalysis by Perfluorooctanoic Acid, 513
Bidani, S. See Lifshitz, A., 61
Brown, R. L. See Manka, M. J., 943
Brown, T. C. See Lim, K. F., 373
—; King, K. D.; Gilbert, R. G.: High-Temperature Collisional Energy Transfer in Highly Vibrationally Excited Molecules II: Isotope Effects in Isopropyl Bromide Systems, 851
Burczyk, B. See Wilk, K. A., 615

Canosa-mas, C. E. See Baldwin, P. J., 997
Carlier, P. See Barnes, I., 489
Chanmugathas, C.
—; Heicklen, J.: The Pyrolysis of Acetylene-Styrene Mixtures between 450 and 550°C, 659
Chen, D.-S. See Hsu, Y.-C., 1073
Chlebicki, J. See Wilk, K. A., 615
Choi, J. S. See Lee, S. H., 1
Christie, J. R. See Arthur, N. L., 261
Chuchani, G.
—; Martin, I.: Neighboring Group Participation in the Pyrolysis Kinetics of 4-Chloro-1-Butanol in the Gas Phase, 183
—; Martin, I.; Dominguez, R. M.: The Kinetics and the Mechanisms of the

Gas Phase Elimination of 4-(Methylthio)-1-Butyl Acetate and 1-Chloro-4-(Methylthio)-Butane, 683
—; Rotinov, A.: The Mechanisms of the Homogeneous, Unimolecular Elimination Kinetics of Ethyl 4-Chlorobutyrate and 4-Chlorobutyric Acid in the Gas Phase, 789
—; Rotinov, A.; Dominguez, R. M.; Martin, I.: The Maximally Inhibited Gas Phase Pyrolysis Kinetics of Primary Alkyl Bromides. The Taft Correlation of Alkyl Substituents, 781
Chui, C. K. See Rogers, E. B., 583
Cohen, N.
The O + NH_3 Reaction: A Review, 319
Colussi, A. J. See Gela, M. A., 869

Dabbagh, A. M.
—; Al-Hamdany, R.: Kinetics of the Acyl Migration in Some Adducts of Acyl-1, 4-Benzoquinones: Part I, 49
Dean, A. M.
—; Westmoreland, P. R.: Bimolecular QRRK Analysis of Methyl Radical Reactions, 207
Deutsch, T. See Györgyi, L., 35, 435
Dóbé, S.
—; Bérces, T.; Réti, F.; Márta, F.: Isomerization of *n*-Hexyl and *s*-Octyl Radicals by 1,5 and 1,4 Intramolecular Hydrogen Atom Transfer Reactions, 895
Dobis, O.
—; Benson, S. W.: Analysis of Flow Dynamics in a New, Very Low Pressure Reactor. Application to the Reaction: $Cl + CH_4 \rightleftharpoons HCl + CH_3$, 691
Dominguez, R. M. See Chuchani, G., 683, 781
Droege, A. T. See Tully, F. P., 251

Falconer, J. L. See Agarwala, J. P., 519
Frey, H. M. See Baldwin, P. J., 997

Gadalla, A. M.
—; Haddad, A.: Characterization of Solid Solutions Composed of Oxides of Cu, Zn, and Cr for Methanol Synthesis, 105
Gela, M. A.
—; Colussi, A. J.: Systematic Characterization of Transition States for Radical Decompositions, 869
Gilbert, R. G. See Lim, K. F., 373; Brown, T. C., 851
Golan, D. R. See Pritchard, G. O., 963
Golden, D. M.
Editorial, 961
Goodman, M. A. See Atkinson, R., 299
Greathead, J. M.
—; Orchard, S. W.: Direct and Sensitized Photolysis of Bicyclo[4.2.0]Octa-2,4-Diene in the Gas Phase, 229
Györgyi, L.
—; Deutsch, T.; Kőrös, E.: Artificial-Intelligence-Based Interpretation of Feature Sensitivities of the Belousov-Zhabotinsky Reaction, 435
—; Deutsch, T.; Kőrös, E.: Sensitivity Analysis of the Two Kinetic States of the Belousov-Zhabotinsky Reaction, 35

Haddad, A. See Gadalla, A. M., 105
Harris, S. J. See Bennett, P. J., 609
Héberger, K.
—; Kemény, S.; Vidóczy, T.: On the Errors of Arrhenius Parameters and Estimated Rate Constant Values, 171
Heicklen, J. See Chanmugathas, C., 659
Heldoorn, G. M. See Pritchard, G. O., 963
Heo, G. See Lee, S. H., 1
Herron, J. T.
A Critical Review of the Chemical Kinetics of SF_4, SF_5, and S_2F_{10} in the Gas Phase, 129
Holmes, B. E.
—; Rakestraw, D. J.: Disproportionation-Combination Rate Constant Ratios for Haloalkyl Radicals: Evidence for Heterogeneous Disproportionation, 401
Hsu, Y.-C.
—; Chen, D.-S.; Lee, Y.-P.: Rate Constant for the Reaction of OH Radicals with Dimethyl Sulfide, 1073
Husain, D. See Basu, S. C., 1083
Huybrechts, G. See van Mele, B., 363, 885, 1063

Ibaraki, T. See Ito, K., 841
Imbert, F. E.
—; Marshall, R. M.: The Mechanism and Rate Parameters for the Pyrolysis of *n*-Hexane in the Range 723–823 K, 81
Ito, K.
—; Ibaraki, T.: Kinetic Study of the Iodine-Catalyzed Alcoholysis of Butoxytriethylsilane: *n*-Butoxy Group–*s*-Butoxy Group Exchange Reaction, 841

Johnson, K. A. See Pritchard, G. O., 963
Jonah, C. D. See Liu, A.-D., 25
Jourdain, J. L. See Martin, D., 503

Kaiser, E. W.
A Modeling Study of the Oxidation of Propionaldehyde in the Negative Temperature Coefficient Regime, 457
Kalantar, A. H.
Large Inefficiencies of Unweighted Least-Squares Treatment of Logarithmically Transformed $A\exp(-kt)$ Data, 923
Kemény, S. See Héberger, K., 171
Kennedy, V. H. See Pritchard, G. O., 963
Kern, R. D. See Wu, C. H., 975
Kerr, J. A. See Bennett, P. J., 609
Khan, K. N.
The Kinetics and Mechanism of Alkaline Hydrolysis of *N*-Substituted Phthalimides, 143

Kinetics and Mechanism of Transesterification of Phenyl Salicylate, 757
Structure–Reactivity Relationships and the Rate–Determining Step in the Reactions of Methyl Salicylate with Primary Amines, 415
Kim, K. H. See Lee, S. H., 1
King, K. D. See Brown, T. C., 851; Lim, K. F., 373
Kőrös, E. See Györgyi, L., 35, 435
Kondo, O. See Benson, S. W., 829
Kurylo, M. J. See Wallington, T. J., 725, 1015

Laverdet, G. See Martin, D., 503
Le Bras, G. See Martin, D., 503
Lee, S. H.
—; Heo, G.; Kim, K. H.; Choi, J. S.: Kinetic Studies on the Oxidation of Carbon Monoxide over Pure, Reduced, and Doped Indium Sesquioxides, 1
Lee, Y.-P. See Hsu, Y.-C., 1073
Lifshitz, A.
—; Moran, A.; Bidani, S.: Thermal Reactions of Acetonitrile at High Temperatures: Pyrolysis behind Reflected Shocks, 61
Lim, K. F.
—; Gilbert, R. G.; Brown, T. C.; King, K. D.: Collisional Energy Transfer in Highly Vibrationally Excited Molecules: A Very Low-Pressure Pyrolysis Study of Acetyl Chloride, 373
Liu, A.-D.
—; Mulac, W. A.; Jonah, C. D.: Pulse Radiolysis Study of the Reaction of OH Radicals with C_2H_4 over the Temperature Range 343–1173 K, 25
Lum, R. M.
—; McAfee, K. B. Jr.: Exchange Reactions in Selectively Excited $Br_2(B^3\Pi_{ou}^+)$, 639

Manka, M. J.
—; Brown, R. L.; Stein, S. E.: Rate Constants for Hydrogen Abstraction by Resonance Stabilized Radicals in High Temperature Liquids, 943
Marshall, R. M. See Imbert, F. E., 81; Benson, S. W., 829
Self-Inhibition or the Lack of It in the Pyrolyses of Neopentane and *n*-Hexane, 649
Márta, F. See Dóbé, S., 895
Martin, D.
—; Jourdain, J. L.; Laverdet, G.; Le Bras, G.: Kinetic Study of the Reaction of IO with CH_3SCH_3, 503
Martin, G.
—; Martinez, H.: Gas Phase Thermolysis of Cyanomethyl *t*-Butyl Sulfide and Cyanomethyl *t*-Butyl Ether, 1053
Martin, I. See Chuchani, G., 183, 683, 781
Martin, J. G.
—; Ring, M. A.; O'Neal, H. E.: The Decomposition Kinetics of Disilane and the Heat of Formation of Silylene, 715
Martinez, H. See Martin, G., 1053
McAfee, K. B. Jr. See Lum, R. M., 639
Monzó, I. S.
—; Palou, J.; Peñalver, J.; Valero, R.: Kinetics of the Permanganate Oxidation of Formic Acid in Aqueous Solution, 741
Moran, A. See Lifshitz, A., 61
Mosseri, S.
—; Alfassi, Z. B.; Neta, P.: Absolute Rate Constants for Hydrogen Abstraction from Hydrocarbons by the Trichloromethylperoxyl Radical, 309
Mouvier, G. See Barnes, I., 489
Mulac, W. A. See Liu, A.-D., 25
Murti, P. S. R. See Panda, P. K., 155

Neta, P. See Mosseri, S., 309
Neuman, D. M. See Wallington, T. J., 725

O'Neal, H. E. See Martin, J. G., 715
Orchard, S. W. See Greathead, J. W., 229

Paddisor, S. See Tschuikow-Roux, E., 15
Palou, J. See Monzó, I. S., 741
Panda, P. K.
—; Panda, R. K.; Murti, P. S. R.: Kinetics and Mechanism of Electron Transfer from Phenolate Anion to Hexacyanoferrate (III) in Aqueous Alkaline Media, 155
Panda, R. K. See Panda, P. K., 155
Parmar, S. S. See Basco, N., 115
Peñalver, J. See Monzó, I. S., 741
Perez, J. D.
—; Phagouape, L. M.: Kinetics of the Gas-Phase Thermal Elimination of *N*-Alkyl-Pyrazoles, 571
Péter, A. See Ács, G., 929
Phagouape, L. M. See Perez, J. D., 571
Piasecki, M. L. See Pritchard, G. O., 963
Pitts, J. N., Jr. See Wallington, T. J., 243
Pritchard, G. O.
—; Kennedy, V. H.; Heldoorn, G. M.; Piasecki, M. L.; Johnson, K. A.; Golan, D. R.: Disproportionation Reactions Between Alkyl and Fluoroalkyl Radicals. IV. Pentafluoroethyl and Ethyl Radicals, 963

Rakestraw, D. J. See Holmes, B. E., 401
Ralph, S. K. See Summers, D., 553
Ramasami, T. See Unni Nair, B., 277
Ramaswany, D. See Unni Nair, B., 277
Réti, F. See Dóbé, S., 895
Ring, M. A. See Martin, J. G., 715
Robinson, G. N. See Batt, L., 391
Rodgers, A. S. See Rogers, E. B., 583

Rogers, E. B.
—; Tang, Y.-N.; Rodgers, A. S.; Chui, C. K.: Differential Energy Distributions in Nonthermal Systems: Model Calculations and Applications to ^{18}F-for-F Nuclear Recoil Substitutions in CH_3CF_3, 583
Rotinov, A. See Chuchani, G., 781, 789

Sakamaki, F. See Akimoto, H., 539
Salinovich, O. See Taccone, R. A., 627
Scott, J. M. W. See Summers, D., 553
Singh, H. J. See Wu, C. H., 975
Smith, G. P.
Laser Pyrolysis Studies of OH Reaction Rates with Several Butanes at 1200 K, 269
Sokołowski, A. See Wilk, K. A., 615
Spicer, C. W. See Sverdrup, G. M., 191
Staricco, E. H. See Taccone, R. A., 627
Stein, S. E. See Manka, M. J., 943
Summers, D.
—; Scott, J. M. W.; Ralph, S. K.: Approximation Techniques in Complex Reaction Kinetics, 553
Sverdrup, G. M.
—; Spicer, C. W.; Ward, G. F.: Investigation of the Gas Phase Reaction of Dinitrogen Pentoxide with Water Vapor, 191

Taccone, R. A.
—; Salinovich, D.; Staricco, E. H.: Kinetic Study of Gas-Phase Reactions with CF_2Cl_2 and $CFCl_3$. Analysis using the Transition State Theory (TST) of the Chlorine Atom Transfer Reactions by CF_3 and CH_3 Radicals from Halomethanes, 627
Takagi, H. See Akimoto, H., 539
Tang, Y.-N. See Rogers, E. B., 583
Taylor, R.
The Mechanism of Thermal Eliminations. Part XXIII. [1] The Thermal Decomposition of Pyruvic Acid, 709
Trogler, W. C.
Kinetics and Mechanics of Substitution at Paramagnetic Metal Centers in Organometallic Complexes, 1025
Tschuikow-Roux, E.
—; Paddison, S.: Bond Dissociation Energies and Radical Heats of Formation in CH_3Cl, CH_2Cl_2, CH_3Br, CH_2Br_2, CH_2FCl, and $CHFCl_2$, 15
Tully, F. P.
—; Droege, A. T.: Kinetics of the Reactions of the Hydroxyl Radical with Dimethyl Ether and Diethyl Ether, 251
Tybaert, C. See van Mele, B., 1063

Unni Nair, B.
—; Ramasami, T.; Ramaswany, D.: Kinetics of Cerium (IV) Oxidation of Macrocyclic Complexes of Chromium(III) and Fate of Chromium(IV) Intermediates, 277

Valero, R. See Monzó, I. S., 741
van Mele, B.
—; Huybrechts, G.: Kinetics, Mechanism, and Stereochemistry of Diels-Alder Reactions of CN-Substituted Ethenes with Cyclohexa-1,3-Diene in the Gas Phase, 363
—; Huybrechts, G.: Kinetics and Mechanism of the Thermal Reactions of *Endo*- and *Exo*-5-Cyanobicyclo[2.2.2]oct-2-ene and Methyl-Substituted Derivatives in the Gas Phase, 885
—; Tybaert, C.; Huybrechts, G.: Kinetics, Mechanism, and Stereochemistry of Diels-Alder Reactions of Carbonyl-substituted Ethenes with Cyclohexa-1,3-Diene in the Gas Phase, 1063
Vidóczy, T. See Héberger, K., 171

Wallington, T. J.
—; Atkinson, R.; Winer, A. M.; Pitts, J. N., Jr.: A Study of the Reaction $NO_3 + NO_2 + M \rightarrow N_2O_5 + M$ ($M = N_2, O_2$), 243
—; Kurylo, M. J.: The Gas Phase Reactions of Hydroxyl Radicals with a Series of Aliphatic Alcohols over the Temperature Range 240–440 K, 1015
—; Neuman, D. M.; Kurylo, M. J.: Kinetics of the Gas Phase Reaction of Hydroxyl Radicals with Ethane, Benzene, and a Series of Halogenated Benzenes over the Temperature Range 234–438 K, 725
Walsh, R. See Baldwin, P. J., 997
Ward, G. F. See Sverdrup, G. M., 191
Westmoreland, P. R. See Dean, A. M., 207
Wilk, K. A.
—; Sokołowski, A.; Burczyk, B.; Chlebicki, J.: The Kinetics of Oxiranes Addition to Bis/2-Hydroxyalkyl/Disulfides and Bis/2-Hydroxyalkyl/Sulfides in the Presence of *N,N*-Dimethylcyclohexylamine, 615
Winer, A. M. See Wallington, T. J., 243
Wu, C. H.
—; Singh, H. J.; Kern, R. D.: Pyrolysis of Acetylene Behind Reflected Shock Waves, 975

Subject Index to Volume 19

Communications to the Editor are indicated by the letter C following the page number.

Acetyl peroxy radical, reaction with NO_2, 115
—, UV absorption spectrum, 115
Acetyl radical decomposition, 997
Acetylene, thermal decomposition, 975
Acyl migration kinetics, 49
Adsorption spectra, UV, of PAN and acetyl peroxy radical, 115
$A \exp(-kt)$ data, 923
Alkaline hydrolysis, phthalimides, 143
*Azo*alkanes, 929
Alkoxysilanes, 841
Alkyl radicals, 963
Analysis of kinetic model, 35
Approximation techniques in kinetics analytical methods for complex kinetics, 553
Arrhenius parameters, statistical error analysis, 171
Artificial intelligence in chemical kinetics, 435
Atmospheric reactions of ozone with cycloalkenes, 609
Atomic resonance absorption, spectroscopy, 1083
Azide-bromine reaction in aqueous medium, 777

Belousov–Zhabotinsky oscillator, 435
Belousov–Zhabotinsky reaction, 435
Bond dissociation energies in halomethanes, 15
t-Butoxy radical, decomposition, 391

Catalysis, of CO oxidation by IN_2O_3, 1
—, of methanol sysnthesis by oxides of Cu, Zn, and Cr, 105
Chlorine atoms, gas-phase reactions, 1097
4-Chloro-1-butanol, pyrolysis of, 183
Cross-combination ratios for radical–radical reactions, 261
Cross reactions of radicals, 261
Cu-Cr-Zn-O, catalytic methanol synthesis, 105
Curve fitting, of Arrhenius parameters, 171
Endo-5-cyanobicyclo-[2.2.2]oct-2-ene, 885
Exo-5-cyanobicyclo-[2.2.2]oct-2-ene, 885

Decomposition, acetonitrile, 61
Decomposition of *t*-butoxy radical, 371
Decomposition of disilane, 715
Diels–Alder reactions, 1063
Diethyl ether, 251
—, reaction with OH, 251
Dimethyl ether, 251
—, reaction with OH, 251
Dinitrogen pentoxide, homogeneous reaction with water vapor, 191
Disproportionation-combination, 401
Disproportionation-combination rate constant ratios, 401

Elimination: of 4-(methylthio)-1-butyl acetate and 1-chloro-4-(methylthio)-butane in the gas phase, 683
Elimination kinetics, 789
Elimination kinetics of alkylpyrazdes, 571
Energy transfer, study of acetyl chloride, 373
Error analysis, of fit Arrhenius parameters, 171
Ethanol, reaction rate with NO_3, 243
Exchange reactions, in laser excited Br_2, 639

Flash photolysis, kinetic spectroscopy study of the acetylperoxy-NO_2 reaction, 115
Flow tube kinetics, reaction of IO + dimethyl sulfide, 503
Fluoralkyl radicals, 963
Four center reactions in laser excited Br_2, 639
FTIR spectroscopy of IO + dimethyl sulfide reaction, 489

Gas-gas collisional energy transfer quantities, 851
Gas-phase reactions, 1097
Gas-phase thermolysis, 1053

Haloalkyl radicals, 401
Halogenated benzene, reaction with OH, 725
Heat of formation of SiH_2, 715
Heterogeneous disproportionation, 401
Hexacyanoferrate(III), phenol oxidation of, 155
Hexane, pyrolysis of, 81
n-hexyl radicals, 895
Hot atom energy distributions, fluorine substitution, hot atom reactions, 583
Hydrogen abstraction, 943
Hydrogen abstraction by $CC_{13}O_2$, 309

Hydrogen abstraction from ethylene by hydroxyl, 25
Hydroxyl, reaction with dimethyl ether and diethyl ether, 251
Hydroxyl radical(s), 251, 1015

Inhibition, in neopentane and hexane pyrolysis, 649
Interpretation of feature sensitivities, 435
Iodine, 841

Ketone photolysis, 997
Kinetics, 251
—, of Diels-Alder reactions of CN-substituted ethenes with cyclohexa-1,3-diene, 363
—, of the gas phase reactions of the NO_3 radical with NO_2 (M=N_2, O_2), methanol, ethanol and propan-2-ol, 243
Kinetics of the gas-phase reactions of NO_3 radicals with a series of alkynes, haloalkenes and, -unsaturated aldehydes, 299
Kinetics and mechanism, of aminolysis of methyl salicylate, 415
Kinetics of oxiranes to compounds, 615

Macrocyclic Cr(III) complexes, oxidation by Ce(IV), 277
Mercury-photosensitized reaction of bicyclo[4.2.0]-2,4-octadiene, 229
Methanol, reaction rate with NO_3, 243
—, synthesis by oxide solutions of Cu, Zn and Cr, 105
Methyl radical reactions, QRRK theory of, 207
Methyl salicylate, reactions with primary amines, 415
Methylchlorosilane formation, 519
Micelle catalysis by perfluorooctanoic acid catalysis, by perfluorooctanoic acid, 513

N_2O_5, gas-phase reaction with water, 191
NO_2 reaction with acetyl peroxy radical, 115
NO_3, reaction rates with NO_2, methanol, ethanol, and propanol, 243
Negative temperature coefficient regime, 457
Nitrogen oxides, 191

Bicyclo[4.2.0]-2,4-octadiene, direct and mercury-sensitized gas phase photolysis of, 229
s-octyl radicals, 895
OH radicals, 1073
Organic compounds, 799
Organometallic complexes, 1025
Oscillatory reactions, 35
Oxidation, kinetics of CO over IN_2O_3, 1
Oxidation of formic acid by permanganate, 741
Oxidation of macrocyclic Cr(III) complexes, 277
Oxidation mechanism of propionaldehyde, 457

PAN (peroxy acetyl nitrate), UV absorption spectra, 115
Phenol oxidation, by alkaline hexacyanoferrate (III), 155
Photocatalytic reaction of $NO_2 + H_2O$, 539
Photolysis of bicyclo[4.2.0]-2,4-octadiene in gas phase, 229
Phthalimides, *N*-substitute, kinetics of alkaline hydrolysis, 143
Propanol, reaction rate with NO_3, 243
Propanol oxidation, 457
Pulse radiolysis, 25
Pulse-radiolysis study of $CC_{13}O_2$ hydrogen carbon reactions, 309
Pyfoysis, neopentane and hexane, 649
Pyrolysis, acetylene–styrene mixtures, 659
Pyrolysis kinetics, of 4-chloro-1-butanol, 183
—, mechanism and rate parameters, *n*-Hexane, 81
Pyrolysis of alkyl bromides, 781C
Pyruvic acid, decomposition, 709

Quantum RRK theory for CH_3 reactions, 207

Radical decomposition, 869
Radical heats of formation, halomethanes, 15
Rate constant for $N_2O_5 + H_2O$, 191
Rate constants, 829
Reaction(s), gas phase, of the NO_3 radical, 243, 299
Review, of data on $O + NH_3$, 319
—, of sulfur fluoride kinetics, 129

S_2F_{10}, Kinetics review, 129
Sensitivity analysis, 35
Shock pyrolysis, acetonitrile, 61
Statistical analysis, of Arrhenius parameters, 171
Structure reactivity relationships, methyl salicylate plus amine reaction, 415
Sulfur hexafluoride, kinetics review, 129

Taft correlation of alkylbromide pyrolysis rates, 781C
Transesterification of phenylsalicylate, 757
Transition-state theory, of $O + NH_3$, 319
Transition state theory analysis of chlorine atom transfer reactions with $CF_3 + CH_3$, 627

Unweighted least-squares treatment, 923

Very low pressure reactor, study of $Cl + CH_4$ heat of formation, 691

Index of Compounds to Volume 19

Acetonitrile, Shock initiated decomposition and pyrolysis, 61
Acetoperoxy radicals, 115
Acetylchloride, energy transfer in, 373
Acetylene, pyrolysis, 975
—, pyrolysis with styrene, 659
—, rate constant for the gas-phase reaction with the NO_3 radical, 299
Acrolein, rate constant for the gas-phase reaction with the NO_3 radical, 299
Acyl-1,4-benzoquinone adduct kinetics, 49
N-Alkyl, pyrazole, thermal elimination kinetics of, 571
Alkyl radicals, 963
β-Alkyl-substituted ethyl bromides, 781
Alkylbromides, pyrolysis, 781
Allyl chloride, rate constant for the gas-phase reaction with the NO_3 radical, 299
Ammonia, reaction with O, 319
Azide anion, reaction with bromine, 777
Azoalkanes, thermochemistry, 929

Benzene, 725
Bicyclo[4.2.0]octa-2,4-diene, 229
Br atoms, 829
Bromine, 777
—, laser excited exchange reactions, 639
—, reaction with N_3, 777
Butenes, reaction with OH, 269
t-Butoxy radical decomposition, 391
Butoxytriethylsilane, 841

CF_2Cl_2, reaction with CF_3, 627
CF_3, reaction with CF_2Cl_2 and $CFCl_3$, 627
$CFCl_3$, reaction with CF_3, 627
$CH_3 + O_2$, 207
$CH_3 + O$, 207
$CH_3 + OH$, 207
CH_3/CF_3, 261
CH_3O, 183
Carbon monoxide, oxidation over In_2O_3, 1
Cerium(IV), oxidation if Cr(III) complexes, 277
4-Chloro-1-butanol, 183
1-*Chloro*-4-(*methylthio*)-*butane:* gas phase pyrolysis of, 683
Cl atoms, 1097
Cl reaction with methane, 691
Cr oxides, 105
Crotonaldehyde, rate constant for the gas-phase reaction with the NO_3 radical, 299
Cu oxides, 105
Cu_3Si, methylchlorosilane formation on, 519
Endo-5-cyanobicyclo[2.2.2]oct-2-ene, 885
Exo-5-cyanobicyclo[2.2.2]oct-2-ene, 885
Cyanoethenes, reaction with cyclohexa-1,3-diene, 363
Cyanomethyl *t*-butyl ether, 1053
Cyanomethyl *t*-butyl sulfide, 1053
Cyclohexa-1,3-diene, 1063
—, reactions with CN-substituted ethenes, 363
Cyclohexene, reaction with ozone, 609
Cyclopentene, reaction with ozone, 609

1,1-Dichloroethene, rate constant for the gas-phase reaction with the NO_3 radical, 299
cis-1,2,Dichloroethene, rate constant for the gas-phase reaction with the NO_3 radical, 299
trans-1,2-Dichloroethene, rate constant for the gas-phase reaction with the NO_3 radical, 299
Dimethyl sulfide, 1073
—, reaction with IO, 489, 503
Dimethylcyclohexylamine, role in oxivane addition to hydroxyalkylsulfides, 615
Disilane, 715
—, decomposition kinetics, 715

Ethyl 4-chlorobutyrate, 789
Ethylene, reaction with hydroxyl, 25

Fluoroalkyl radicals, 963
Formic acid, 741
—, aqueous oxidation by permanganate, 741

H-atom abstraction, 943
Haloalkyl radicals, disproportionation and combination, 401
Halomethanes, bond dissociation energies of, 15
Halomethyl radicals, thermochemistry of, 15
Hexacyanoferrate (III), 155
n-Hexane, pyrolysis, 81
Hexane pyrolysis, self-inhibition or lack of it in, 649
n-Hexyl radicals, 895
HONO, photoenhanced surface formation from $NO_2 + H_2O$, 539
Hydroxyalkylsulfides, reaction with oxiranes, 615
Hydroxyl, reaction with butenes, 269
—, reaction with halogenated benzenes, 725
Hydroxyl radical(s), 251, 725
—, reaction with ethylene, 25

IO, reaction with dimethyl sulfide, 489, 503
Indium sesquioxide, catalysis of CO oxidation, 1
Isopropyl bromide systems, 851

Methane, reaction with Cl, 691
Methyl cyclobutyl ketone (MCK), 997
Methyl radical, heat of formation, 691
Methyl Salicylate–aminolysis, kinetics, and mechanism, 415
Methylchlorosilane, formation of Cu_3Si with Zn, 519
4-(*Methylthio*)-1-*butyl acetate:* gas phase pyrolysis of, 683

N_2O_5, 191
NO_3 radical, reaction with NO_2, 243
Neopentane pyrolysis, self-inhibition or lack of it in, 649
Nitrate Radical, kinetics of the gas-phase reaction with a series of alkynes, haloalkenes and α, β-unsaturated aldehydes, 299
Nitrogen oxide, 191

s-Octyl radicals, 895
OH radicals, 1015
—, gas-phase reactions, 799
Organometallic radicals, 1025
Oxirane, addition to hydroxyalkyllsulfides, 615
Oxygen atom, reaction with ammonia, 319
Ozone, reactions with cyclohexene, 609

Perfluorootanoic acid, unicellar catalysis hydroxamic acids, catalytic hydrolysis by perfluorooctanoic acids, 513
Permanganate, aqueous oxidation of formic acid, 741
Phenyl salicylate, transesterification, 757
—, transesterification kinetics, 757
Propionaldehyde, oxidation mechanism of, 457
Propyne, rate constant for the gas-phase reaction with the NO_3 radical, 299
Pyruvic acid, 709

Si(3^3P_J), 1083
Silylene, 715
Sitylene, heat of formation, 715
Styrene, pyrolysis with acetylene, 659
N-Substituted phthalimides, 143

Tetrachloroethene, rate constant for the gas-phase reaction with the NO_3 radical, 299
Trichloroethene, rate constant for the gas-phase reaction with the NO_3 radical, 299
Trichloromethyl peroxyl radical, abstraction reactions with hydrocarbons, 309
Trifluoroethane, fluorine substitution hot atom kinetics, 583

Vinyl Chloride, rate constant for the gas-phase reaction with the NO_3 radical, 299

Zinc, role in promoting methylchlorosilane formation, 519
Zn oxides, 105